

Mr. J. S. C. Douglas, Christ Church, Radcliffe travelling fellow, has been elected to the Philip Walker studentship in pathology.

THE London Day Training College, Southampton Row, W.C., will be opened by the Earl of Rosebery on Saturday, November 2, at 3 p.m. The ceremony will be conducted by Mr. H. Percy Harris, chairman of the London County Council.

DR. W. GOODWIN has been appointed head of the chemical department of the South-Eastern Agricultural College (University of London), and Mr. B. N. Wall head of the agricultural department. A new department of soil bacteriology is being established under the charge of Mr. C. T. Gimmingham. A conference of hop-growers will be held on November 27 under the chairmanship of Mr. E. C. Lister-Kay, when papers on fertilisation of hops, eel-worms, and hop-drying will be communicated.

At the annual general meeting of the Old Students' Association at University College (University of London), Dr. Tempest Anderson was elected president of the association for the year 1907-8. The annual dinner of the association will be held on Thursday, December 5. The new wing that has recently been added to the college will be completed by that time, and will be open to inspection. Former students of the college who desire to be present should communicate with Mr. George A. Aitken at 42 Edwardes Square, Kensington, W.

PROF. L. F. VERNON HARCOURT, who died on September 14, bequeathed 1000*l.* to the Institution of Civil Engineers in memory of the many advantages he had derived from its library and lectures, to found a yearly or biennial (in the discretion of the institution) lecture, medal, premium, or prize, in connection with river, canal, or maritime engineering. The residue of his property he left to his wife for life, and after her death to the University of Oxford, if there shall have been founded there in the lifetime of himself and his wife a school of engineering or mechanical science, 1000*l.* for the promotion of the teaching of engineering science there. He also bequeathed 200*l.* to University College, London, for a yearly prize in civil engineering.

THE new laboratories of the scientific departments of the College of Liberal Arts of Boston University have now been opened in the building formerly occupied by the Harvard Medical School. We learn from *Science* that the top floor is occupied by the departments of astronomy, physics, and mathematics, and comprises large and small lecture-rooms, laboratories, and offices; a large part of the basement is also given over to physics. The chemical and biological departments occupy the second floor, and consist of large, well-lighted class laboratories, private laboratories and store-rooms, professors' rooms, and an amphitheatre for the larger classes. The two domes for the telescopes of the astronomical department are situated on the roof, and are not quite completed. The equipment of all the laboratories is new, and was purchased in part by special funds given to the University for that purpose. The scientific departments are under the same directors as last year.

THE report for the year 1907 on secondary education in Scotland, prepared by Dr. J. Struthers, the permanent secretary of the Scotch Education Department, has just been published. It appears that instruction in experimental science continues to make headway steadily. The schemes of study submitted to the department for approval often show a tendency to attempt a larger volume of work than can be accomplished satisfactorily in the time allotted to the subject, and teachers find difficulty in treating inductively the more advanced subjects included in the school course of physics and chemistry. The chief examiner reports a large increase in the number of candidates presented at the examination for leaving certificates. It is exceedingly satisfactory, the report continues, to know that in more than 50 per cent. of the schools the examiners were able to accept the teacher's list without change or modification of any kind. This is a sure sign of the growth of that mutual confidence between teachers and examiners which is essential to any really healthy system of examination.

THE scientific training of the pharmacist was the subject chosen by Prof. Meldola, F.R.S., for the inaugural address upon the occasion of the opening of the present winter session of the School of Pharmacy. From the lecture we gather that for the two examinations of the school the passing of which qualify the student as a pharmacist, a period of fifteen months' training is all that is required. The standard of the examinations themselves is unquestionably high, and too high, in the opinion of Prof. Meldola, for so short a period of training, creating the danger of the instruction of the school degenerating into a "cram." It appears, however, that at present no knowledge of the action of drugs is demanded of the pharmacy student, although a most intimate acquaintance with the methods of physical and chemical analysis is demanded of him. There can be no doubt that legally great responsibility rests upon the pharmacist, in that if he cannot make his own preparations he is expected to know how they are made and how to assure himself that the products he dispenses are of the nature and substance demanded. In Germany a more thorough and a more prolonged scientific training is necessary before a legal qualification in pharmacy can be obtained, and in this country certain universities have, after a prolonged and thorough curriculum, granted degrees in pharmacy. In conclusion, Prof. Meldola suggested that the Pharmaceutical Society should demand of those students entering the school a higher standard of general education and some specific scientific training either in addition to or in the place of the present three years' apprenticeship, or, in other words, that more attention should be given to the scientific status of pharmacy, even if this has to be done at the expense of its commercial aspects.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, October 21.—M. H. Becquerel in the chair.—The transits of Mercury across the sun, and in particular on that of November 14: G. Bigourdan. A discussion of the various phenomena which have been observed in connection with the transits of Mercury, together with suggestions regarding instruments, &c., for use in the coming transit.—Some formulæ relating to the minima of classes of quadratic forms, binary and positive: G. Humbert.—The spawning of the cod in the south of the North Sea: Alfred Giard and C. Cépède. The authors criticise the views put forward by T. Wemyss Fulton in a recent paper on the same subject. The spawning of the cod in the Pas-de-Calais, the south of the North Sea, and the Baltic takes place in winter, the maximum being produced towards the middle of February, or a month earlier than indicated by Fulton. There is no indication of there being two spawning seasons in certain localities.—The installation of a large astronomical instrument at the summit of the Pic du Midi: B. Baillaud. This was carried out in 1906 and 1907 with the assistance of officers and men of the French artillery. Observations will be commenced in August, 1908.—Observation of the Mellish comet (1907e) made with the bent equatorial of the Observatory of Lyons: J. Guillaume. The comet appeared on October 17 as a diffuse nebulosity of about 35" diameter, with a faint central nucleus. Its lustre is about that of a star of the tenth magnitude. The apparent positions of the comet and comparison stars are given.—Observations of the new comet (1907e) made at the Observatory of Marseilles with the Eichens 26 cm. equatorial: M. Borrelly. Similar observations made on October 17 and 18.—Integral equations: E. Goursat.—The integrals of the differential equation $y' + A_2y^2 + A_3y^3 = 0$: Pierre Bouteux.—The variation of the mass of the electrons in the interior of the atom: H. Pellat.—The formation and preparation of aluminium carbide: Camille Matignon. Four methods of preparing this carbide without the use of the electric furnace are described: heating a mixture of aluminium powder and lampblack in a Perrot gas furnace for twenty minutes, inducing the reaction to start at a point in the same mixture by the addition of iodine or sulphur, the use of the oxy-acetylene blow-pipe, and by the interaction of aluminium and hexachlorobenzene. In the first two cases the purity of the product was tested

by treating with water and analysing the methane produced.—A delicate method for the detection of nickel in the presence of cobalt: **Z. Tchougaeff**. A direct comparison of the dimethylglyoxim reagent suggested by the author some years ago with the reagent recently proposed by M. Peczzi-Escot (ammonium molybdate) shows that the latter is much inferior in delicacy, and under certain conditions may also give rise to a precipitate with cobalt.—Syntheses in the camphor group. The complete synthesis of campholene: **G. Blanc**. The starting point of this synthesis is ethyl malonate, and the sodium derivative of this, treated with γ -bromodimethylbutyric ester, $\text{CH}_2\text{Br} \cdot \text{CH}_2 \cdot \text{C}(\text{CH}_3)_2 \cdot \text{CO}_2\text{C}_2\text{H}_5$, gives the ester of 1:1-dimethylbutane-1:4:4-tricarboxylic acid. This is saponified and the acid heated, giving $\alpha\alpha$ -trimethyladipic acid, the anhydride of which, slowly distilled at the ordinary pressure, is converted into 1:1:4-trimethylcyclopentanone-5. This with magnesium methyl iodide gives the corresponding tertiary alcohol, and the latter spontaneously loses water on distillation, giving a hydrocarbon identical in boiling point, density, and refractive index with campholene from β -campholenic acid.—Sodium anilarsenite in syphilis: **Paul Salmon**. This substance is sold commercially under the name of atoxyl, and by its use comparatively large quantities of arsenic can be administered with comparative impunity. A physiological comparison of three commercial specimens, two amorphous, one well crystallised, showed that no appreciable differences could be detected. It was noteworthy that whereas in animals poisonous symptoms in the medulla were not infrequent, no such untoward effects were observed in man. Of 181 syphilitic subjects, only about 15 per cent. showed intolerance of the drug.—The causes of trypanolytic crises and relapses which follow: **A. Massaglia**. From experiments *in vitro* it is concluded that the crises are due to the formation of an anti-body in the blood of the animals infected by trypanosomes; a small number of the parasites escape destruction and grow accustomed to the action of the anti-body, and it is to these parasites which escape that the relapses are due.—The true accelerating action of sodium fluoride on the coagulation of milk by vegetable ferments: **C. Gerber**.—A preliminary sketch of the geology of Dahomey: **Henry Hubert**.—The displacements of the maxima of the positive and negative anomaly of gravity relatively to the configuration of the earth: **Giulio Costanzi**.

DIARY OF SOCIETIES.

FRIDAY, NOVEMBER 1.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Resumed discussion by Capt. H. R. Sankey on Prof. Bertram Hopkinson's paper on The Indicated Power and Mechanical Efficiency of the Gas-engine.

GEOLOGISTS' ASSOCIATION, at 8.—Conversazione.

MONDAY, NOVEMBER 4.

ARISTOTELIAN SOCIETY, at 8.—The Presidential Address on The Methods of Modern Logic and the Conception of Infinity: Rt. Hon. R. B. Haldane.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—The Determination of Indigotin in Indigo-yielding Plants: Cyril Berthel and R. V. Briggs.—Analysis of Indigo (Part iii) and of the Dried Leaves of *Indigofera arrecta* and *Indigofera Sumatrana*: R. Gaunt, F. Thomas and W. P. Bloxam.

TUESDAY, NOVEMBER 5.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Address by the President, Sir William Matthews, K.C.M.G., and Presentation of Medals and Prizes awarded by the Council.

SOCIOLOGICAL SOCIETY, at 8.—The Evils of Cities: a Study of the Degeneration of Communities, and of the Deterioration of their Individuals: Prof. Geddes.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—Presentation of the Huxley Memorial Medal to Dr. E. B. Tylor.—On Methods of Determining the Stature and taking other Measurements of the Living Person: Prof. D. J. Cunningham, F.R.S.

WEDNESDAY, NOVEMBER 6.

ENTOMOLOGICAL SOCIETY, at 8.—On some of the Butterflies of Tobago: Dr. G. B. Longstaff.—On a Large Series of Nycteribiidae (Parasitic Diptera) from Ceylon: Hugh Scott.

SOCIETY OF PUBLIC ANALYSTS, at 8.—Discussion on the Sealing of Samples.

THURSDAY, NOVEMBER 7.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: The Effect of Pressure upon the Arc Spectra of Metals: W. Geoffrey Duffield.—The Diurnal Variation of Terrestrial Magnetism: Prof. A. Schuster, F.R.S.—The Electric Discharge in Monatomic Gases: F. Soddy and T. D. Mackenzie.—On the Measurement of Temperature in the Cylinder of a Gas Engine: Prof. H. L. Callendar, F.R.S., and Prof. W. E. Dalby.—Note on the Association of Helium and Thorium in Minerals: Hon. R. J. Strutt, F.R.S.

RÖNTGEN SOCIETY, at 8.15.—The Presidential Address, The Production

of High Frequency Oscillations, with Demonstrations: W. Duddell F.R.S.

LINNEAN SOCIETY, at 8.—The Origin of the Di-trimerous Whorls among Flowers of Dicotyledons: Rev. George Henslow.—Unrecorded Acari from New Zealand: Albert D. Michael.—On *Enigmatistes africanus*, a new Genus and Species of Diptera: R. Shelford.—*Exhibitis*:—A copy of Hudson's "Flora Anglica," 1778, with numerous annotations by the Rev. William Kirby: Alexander Stevenson.—Abnormal Stem of *Eucalyptus salmophloia*, F. Muell., from West Australia: Dr. A. B. Rendle.

CHEMICAL SOCIETY, at 8.30.—Gaseous Nitrogen Trioxide: H. B. Baker and Mrs. M. Baker.—The Atomic Weight of Tellurium: H. B. Baker and A. H. Bennett.—The Isomerism of the Double Sulphites of Sodium and Potassium: M. H. Godby.—Studies in the Camphane Series, Part xxiv, Camphoryldithiocarbamic Acid and Camphorylthiocarbimide: M. O. Forster and T. Jackson.—The Vapour Pressures of Triethylamine, of *sym*-Trimethylpyridine, and their Mixtures with Water: R. T. Lattey.—Liquid Triethylamine: R. T. Lattey.—The Action of Sulphuretted Hydrogen on Solutions of Sodium Hydrosulphite: F. S. Sinnatt.—The Alkyl Compounds of Gold. Diethylauric Bromide. Preliminary Note: W. J. Pope and C. S. Gibson.—Note on the Constitution of Homoeriodictyol: F. B. Power and F. Tutin.—The Interaction of Methylene Chloride and the Sodium Derivative of Ethyl Malonate: F. Tutin.—Preparation of Aliphatic Nitro-compounds by the Interaction of the Alkyl Iodides and Mercurous Nitrite: P. C. Ray and P. Neogi.—Some Mercury Derivatives of Camphor: J. E. Marsh and R. de J. F. Struthers.—Contribution to the Chemistry of the Terpenes. II. The Oxidation of Limonene with Chromylchloride: G. G. Henderson.—The Synthesis of Acridines and Phenonaphthacridines: Tetra- and Hexa-methylacridines: Dimethylphenonaphthacridines: Dioxylmethyleneamides: A. Senier and A. Compton.

FRIDAY, NOVEMBER 8.

ROYAL ASTRONOMICAL SOCIETY, at 8.

MALACOLOGICAL SOCIETY, at 8.—Description of a New Species of Clathrella, probably from Ceylon: H. B. Preston.—On the Mollusca of Birket-el-Qurun, Egypt: C. A. Smith.—*Turbo granoliratus* (New Guinea); *Sistrum chrysalis*, *Purpura bougei*, *Natica bougei* (New Caledonia); *Urosalpinx walkeri*, *Litra walkeri* (N. W. Australia); *Amalthea caxi* (Port Stephens); *Pitaria elata* (Sierra Leone); all new species: G. B. Sowerby.—Note on the Originals of the Illustrations for E. M. da Costa's "Historia Naturalis Testaceorum Britanniae," London, 1778: Alex. Reynell.

PHYSICAL SOCIETY, at 8.—Discussion on Mr. Campbell's Paper on the use of Variable Mutual Inductances.—A Graphic Method for Stream-lines and Equipotential Surfaces: L. F. Richardson.—On the Lateral Vibrations of Bars Supported at two Points with one end Overhanging: Dr. J. Morrow.

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